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**LXXXVIII. Observatio Eclipsis Lunaræ facta**  
*Matriti a P<sup>a</sup>. Joanne Wendlingen, Societatis Jesu, in Regali Observatorio Collegii Imperialis ejusdem Societatis, Die 30 Julii 1757.*

*Quælibet observatio bis instituta fuit, semel inter-  
 jecto oculum inter lentemque ocularem vitri clari,  
 cærulei, plani, ac bene tersi, fragmento. Hæ ob-  
 servationes notantur hac voce cerul. Telescopium,  
 quo usus sum, est Gregorianum trium pedum Angli-  
 canorum, omnino præclarum.*

*Communicated by Matthew Maty, M. D. F. R. S.*

[ Read April 20, 1758. ]

IMMERSIONES.		Tempus verum			Differentia
		h	'	"	
<b>P</b>	Principium eclipsis, <i>clar.</i> -	9	47	34	
	Mare Humorum, <i>clar.</i> -	—	52	47	
Grimaldus	- - - - { <i>cær.</i> -	—	54	28	— 59
	- - - - { <i>clar.</i> -	—	55	27	
Bullialdus	- - - - { <i>cær.</i> 10	1	21		— 13
	- - - - { — 10	1	34		
Keplerus	- - - - { —	9	35		— 10
	- - - - { —	9	45		
Copernicus	- - - - { —	16	15		— 12
	- - - - { —	16	28		
Heraclides	- - - - { —	18	14		— 10
	- - - - { —	18	24		

Manilius

IMMERSIONES.					Tempus verum			Differentia
					h	'	"	
Manilius - - - -	{	<i>clar.</i>			10	30	43	— 11
					10	30	54	
Menelaus - - - -	{	—			—	34	11	— 9
					—	34	20	
Promontorium - -	{	—			—	44	49	— 9
					—	44	58	
Mare Crifium - -	{	—			—	45	33	— 11
					—	45	44	
Proclus, <i>clar.</i> - - - -					—	46	54	
Plato - - - - -	{	—			—	54	48	— 14
					—	55	2	
Langrenus - - - -	{	—			11	7	3	— 20
					11	7	23	

EMERSIONES.					Tempus verum			Differentia
					h	'	"	
Plato - - - - -	{	<i>clar.</i>			11	40	34	— 14
					11	40	48	
Heraclides - - - -	{	—			—	41	27	— 12
					—	41	39	
Grimaldus - - - -	{	—			—	47	57	— 7
					—	48	4	
Keplerus - - - - -	{	—			—	52	58	— 10
					—	53	8	
Copernicus - - - -	{	—			12	1	36	— 12
					12	1	48	
Menelaus - - - - -	{	—			—	17	18	— 10
					—	17	28	
Finis eclipseos, <i>clar.</i> - -					—	52	15	

*Observatio Eclipsis Lunar, facta ab eodem, eodem modo, eodem loco, iisdemque instrumentis Die 24. Januar. Anni 1758.*

*Ab hora 5<sup>ta</sup> usque ad finem observationis tantum commovebatur imprægnata plurimum vaporibus atmosphæra, ut tota lunæ illuminatæ portio præter morem undulare videretur. Flabat boreas, indicante thermometro Reaumuriano. 1. grandem infra aquæ congelationem.*

IMMERSIONES.					Tempus verum			Differentia
					h	'	"	
Principium	-	-	-	-	4	7	42	
Grimaldus	-	-	-	{ <i>cæ.</i>	—	9	55	— 38
				{ <i>clar.</i>	—	10	33	
Aristarchus	-	-	-	{	—	15	37	— 34
				{	—	16	11	
Mare Humorum	-	-	-	{	—	20	48	— 24
				{	—	21	12	
Copernicus	-	-	-	{	—	26	45	— 13
				{	—	26	58	
Plato	-	-	-	{	—	35	41	— 41
				{	—	36	22	
Tycho	-	-	-	{	—	39	31	— 38
				{	—	40	9	
Menelaus	-	-	-	{	—	45	43	— 39
				{	—	46	22	
Plinius	-	-	-	{	—	50	17	— 27
				{	—	50	44	
Promontorium Somni				{	—	58	15	— 27
				{	—	58	42	
Cleomedes	-	-	-	{	5	0	22	— 14
				{	5	0	36	

I M-

IMMERSIONES.		Tempus verum			Differentia
		h	'	"	"
Proclus - - - -	{ <i>cær.</i>	5	2	9	— 6
	{ <i>clar.</i>	5	2	15	
Princip. Maris Crifii -	{ —	—	3	6	— 25
	{ —	—	3	31	
Langrenus - - - -	{ —	—	7	40	— 14
	{ —	—	7	54	
Immerf. tot. Maris Crifii	{ —	—	8	19	— 11
	{ —	—	8	30	
Immerfio totalis Lunæ	{ —	—	12	50	— 40
	{ —	—	13	30	

In fine cœlum ferenum, & athmosphæra quieta.

### R E F L E X I O.

Notabilis appulsus umbræ terrestris ad faculas maculaeque lunares differentia, dum partim vitro colore cæruleo tincto, partim absque eo, observationes instituuntur, inventa a D<sup>o</sup>. de Barros, & tum in observatorio Parisino tum alibi sæpius confirmata, ad me duplicem hanc lunæ eclipsim, ea qua vel licuit circumspeditione, instituendam determinavit, spe fretus; nec phænomeni hujus causas, si non veras, veritati saltem proximas, inventurum; unde in tempore de vitris planis bene terfis, diametri mediæ lineæ, partim colore cæruleo claro, partim flavo tinctis mihi provideram, his tamén ultimis uti non licuit ob nimiam umbræ pènumbræque confusionem.

Interjecto oculum inter, lentemque ocularem vitri cærulei fragmento, sequentia observavi. 1. Umbra terrestris in immerfione citius maculam aut faculam lunarem attigit, & in emerfione tardius deseruit,

quam dum absque eo observationem institui. 2. Claritas lunæ, alioquin offendens oculum, suavior apparerat. 3. Limites umbræ perfecte terminabantur excepta secunda eclipsi, in qua (stante borea) ab hora quinta illuminata lunæ pars undulare videbatur.

Suppositis his phænomenis, uti et athmosphæra lunari, de qua vix dubio locus, sequentia intuli: 1. Quo densior dicta athmosphæra fuerit, major radiorum portio ab hac in immerfam umbræ terrestri lunæ portionem, limitibus saltem proximam, reflectetur, eosque reddet dubios, quod quidem contingit, dum absque adminiculo per nudum telescopium observatio instituitur, secus vero dum oculum inter, lentemque ocularem, vitrum cæruleo colore tinctum interjicitur. Addito secundo, ac tertio phænomeno, nempe per vitrum cæruleum lumen multum apparere suavius, infertur, si color cæruleus sufficit ad mitigandam tantopere eam lunæ illuminatæ portionem, quæ extra omnem umbram conspicitur, quanto magis sufficit, ad tollendam omnem claritatem, quæ ab athmosphæra lunari in hoc corpus reflectitur? & ecce tibi secundam illationem, nempe limites umbræ facilius determinari. 3. Diametrum umbræ majorem videri debere, & vel ideo immerfiones macularum aut facularum lunarium citius, emerfiones vero tardius succedere debere; quæ quidem omnia cum observationibus congruunt.

Dixi in prima illatione, reflecti aliquam luminis portionem a lunæ athmosphæra in ipsam eclipsatam corporis hujus portionem, non secus, ac in globo hoc terræquo accidit, qui post solis occasum aliquo adhuc tempore illuminatur. Hæc lucis reflexio tanto erit major, quanto athmosphæra fuerit densior, & quia

quia supponere licet, hanc in luna non semper esse æqualem, infertur, differentiam temporis appulsus umbræ non in omni eclipsi lunari posse esse æqualem, quod demum convenire videtur duplici meæ observationi, ut ex adnotatis temporum differentiis liquet. Hæc mea est circa propositum phænomenon opinandi ratio.

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LXXXIX. *Observations upon a slight Earthquake, tho' very particular, which may lead to the Knowledge of the Cause of great and violent ones, that ravage whole Countries, and overturn Cities.* By John Andrew Peyssonel, M D. F. R. S. *Translated from the French.*

Read April. 20 1758. **I** Went to make my observations upon the natural history of the sea; and when I arrived at a place called the Cauldrons of Lance Caraibe, near Lancebertrand, a part of the island of Grande Terre Guadeloupe, in which place the coast runs north-east and south-west, the sea being much agitated that day flowed from the north-west. There the coast is furnished with hollow rocks, and vaults underneath, with chinks and crevices: and the sea, pushed into these deep caverns by the force and agitation of the waves, compresses the air, which, recovering its spring, forces the water back in the form of the most magnificent fountains;